

Unit Features

Frame:

Frame Thickness: 70mm (2 3/4")

Frame Width: 67mm (2 5/8") or 80mm (3 5/32") Steel Reinforced

Sash:

Sash Thickness: 70mm (2 3/4")

Sash Width: 80mm (3 5/32") Steel Reinforced

Shape Options:

Fixed and Operable

Hardware:

Tilt Turn:

Roto multi-point locking hardware with white handle and hinge covers

Keyed Custodial Handle Available

Optional Keyed or Non Keyed Handle/Hinge Colors:

Silver, brass, bronze, brown, titanium, champagne

Upgraded Non Keyed Handle Colors:

Chrome, Brushed Chrome, Satin Nickel, Antique Brass, Oil Rubbed Bronze, Matte Black

Optional Features:

Concealed Hinge Hardware, Custodial Locking Tilt First, Turn Limiters

Hopper:

Roto multi-point locking hardware w/ Stainless Friction Hinges

Handle/Hinge Colors: Same as Tilt Turn

Optional Features: Concealed Hinge Hardware

Weather Strip:

Weather Stripping: Frame, Sash & Bead

Color: Black

Screening:

Fixed Screen:

Flexscreen: pvc coated spring steel frame with fiberglass mesh charcoal grey screen cloth (50" width restriction) or 3/8"x3/4" Roll-formed metal screen bar(white or painted) with fiberglass mesh charcoal grey screen cloth. Spring loaded installation.

Unit Features (continued)

Glass & Glazing:

Standard:

1 1/2" 180/Clear/180, 272/Clear/272, 272/Clear/180 Argon, Annealed

Available IG Sizes:

1", 1 1/2"

Optional Glazing Available:

Tempered, Dual Glazed, Laminated, Obscure, Tints

Grid Options:

Simulated Divided Lite (SDL) with and without spacer, True Divided Lite (85mm 3 11/32" T Mull)

Upgraded Grid Option:

Decalite SDLs, Two-Tone Grid Color, Painted per customer color request

Color/Finish Options:

Standard:

White Interior/White Exterior

Laminate/Foil Options:*

Interior Only

Natural Oak, Hillside Oak, Colonial Cherry, Cavalier Oak, American Maple, American Cherry

Interior/Exterior Woodgrains:

Rojo Oak, Golden Oak, Walnut, Mahogany, Chestnut

Interior/Exterior Colors:

Black Onyx, Bronze, Hunter Green, Brushed Silver, Clay, Basalt Gray

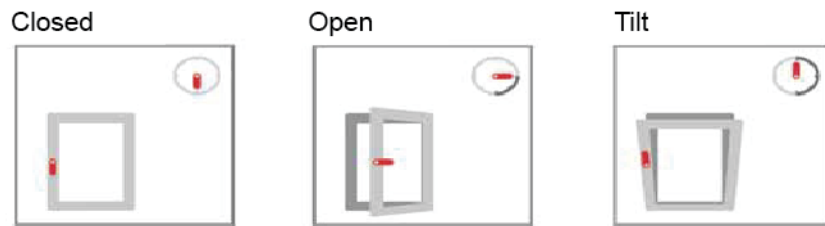
Paint Options

Black, Dark Bronze, Slate Gray, Silver, Linen, Almond, Sand, Clay, Hartford Green, Brick Red

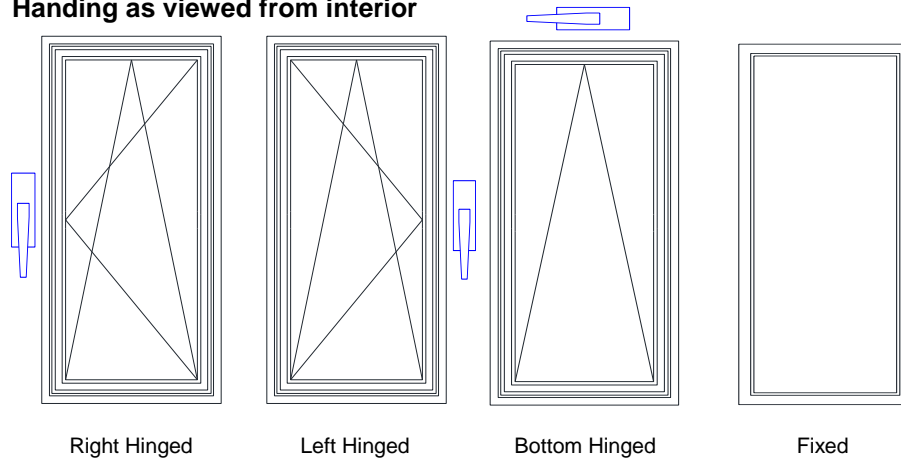
Product comes with 10-Year Manufacturer's Warranty

**Sample booklet available upon request*

Unit Operation / Certified Testing Info / Thermal Tests

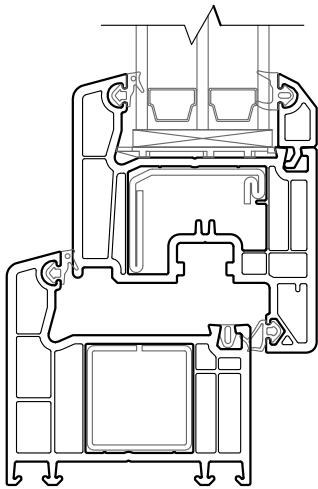
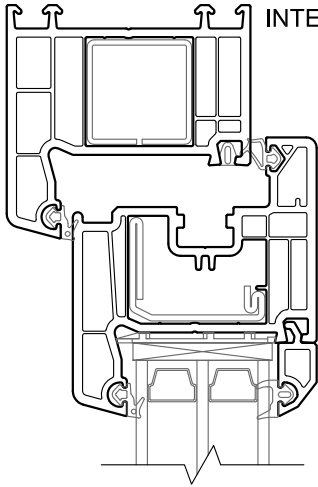


Handing as viewed from interior



VERTICAL SECTION

EXTERIOR INTERIOR



LOGIC
WINDOWS & DOORS

Tel: 207-588-6590

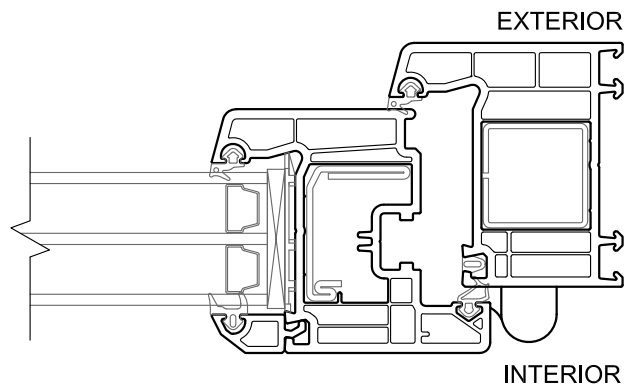
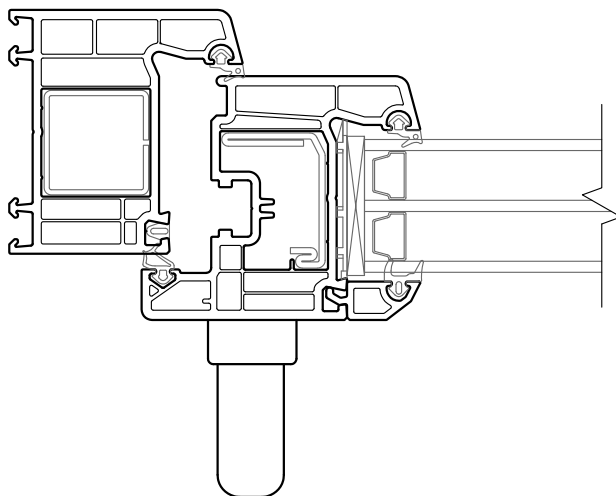
17 Hope Drive, Hallowell, ME 04347

TILT/TURN WINDOW

TRIPLE GLAZING

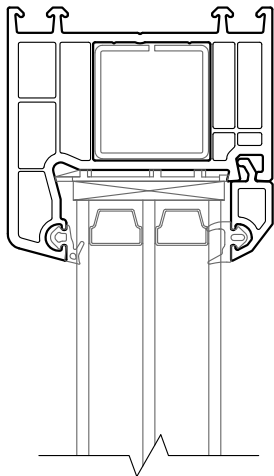


HORIZONTAL SECTION

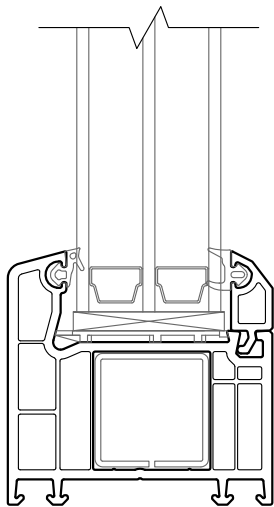


VERTICAL SECTION

EXTERIOR



INTERIOR



LOGIC
WINDOWS & DOORS

Tel: 207-588-6590

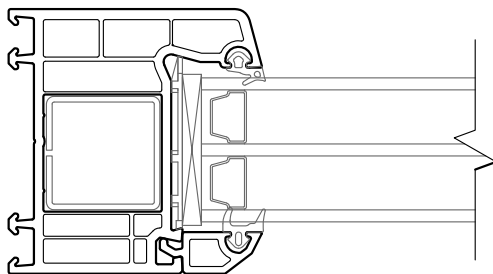
17 Hope Drive, Hallowell, ME 04347

FIXED WINDOW

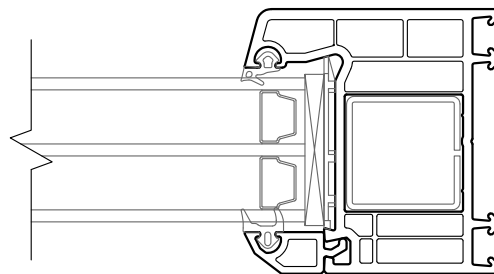
TRIPLE GLAZING



HORIZONTAL SECTION

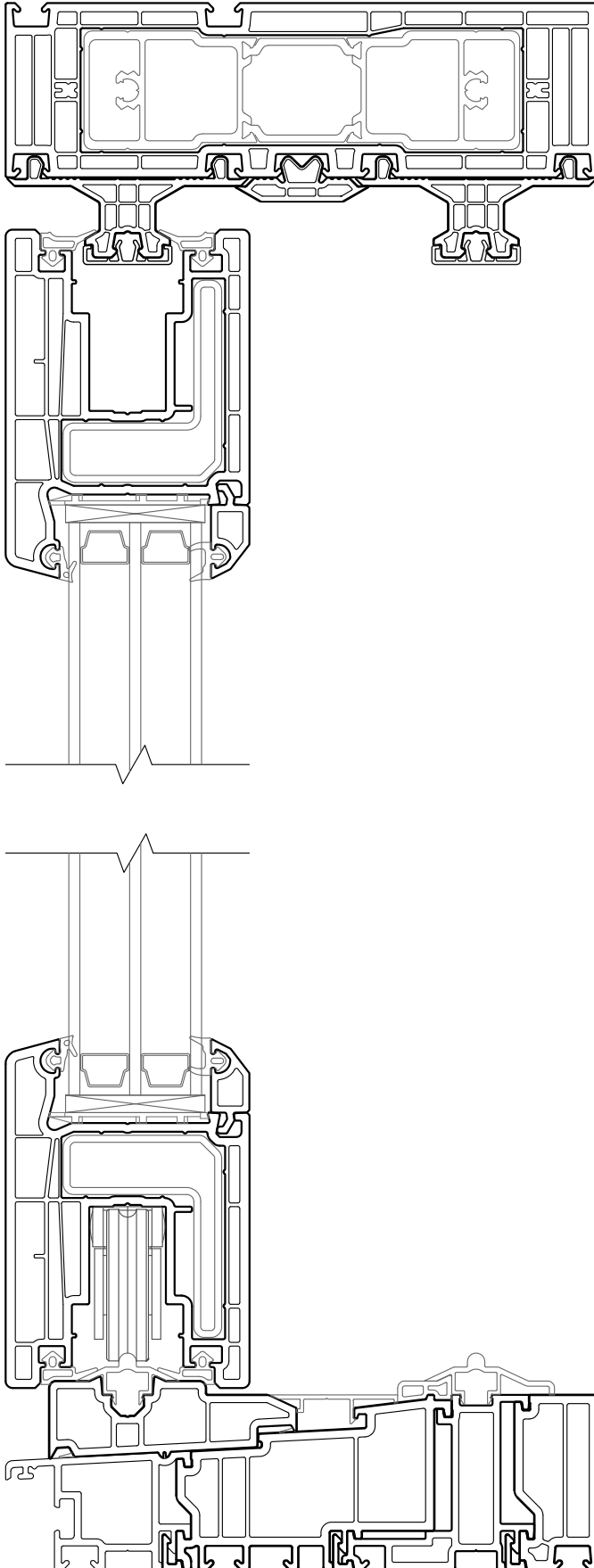


EXTERIOR



INTERIOR

VERTICAL SECTION



EXTERIOR

INTERIOR

LOGIC
WINDOWS & DOORS

Tel: 207-588-6590

17 Hope Drive, Hallowell, ME 04347

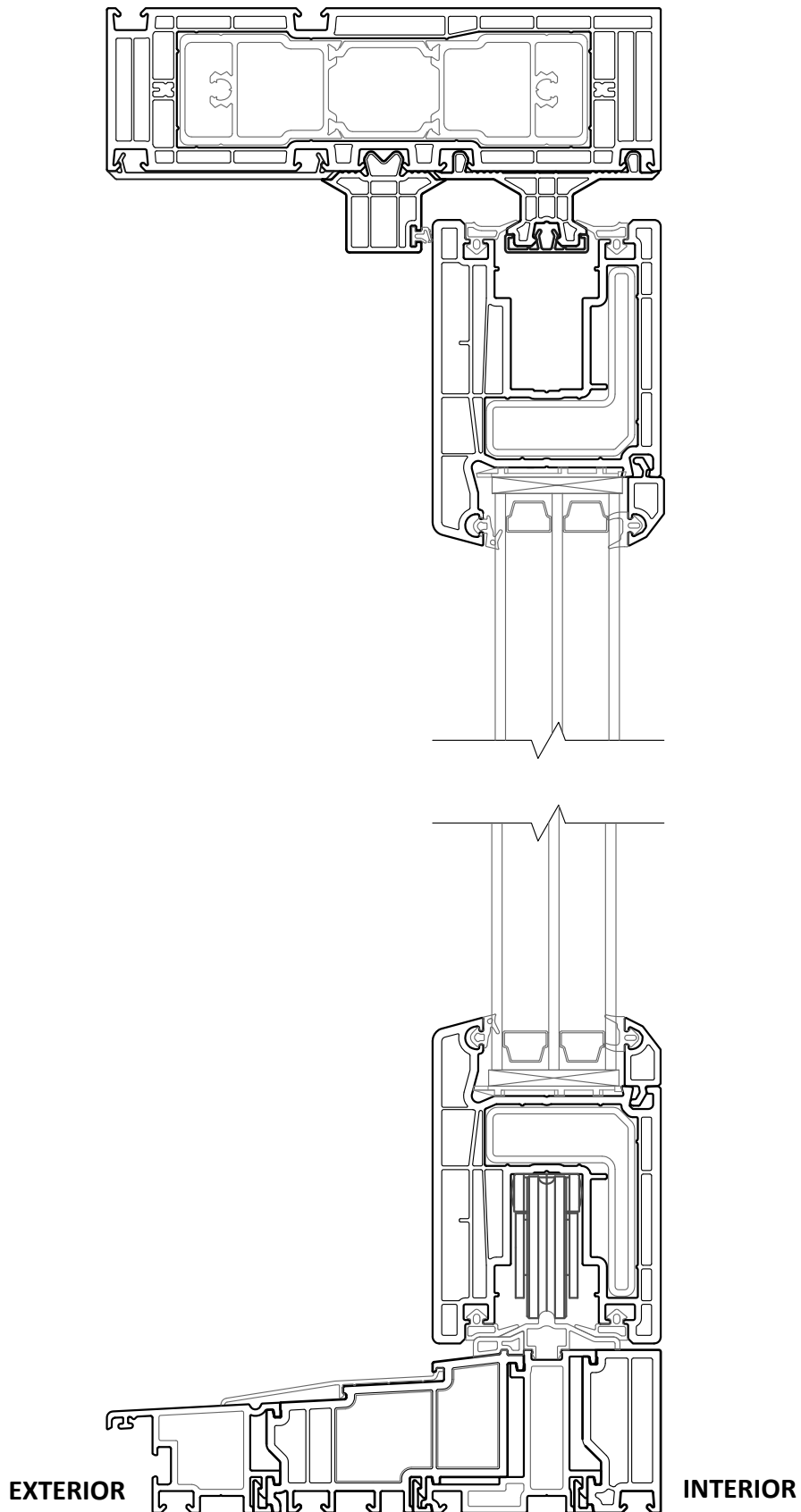
LIFT & SLIDE

2 ACTIVE PANELS

TRIPLE GLAZING



VERTICAL SECTION

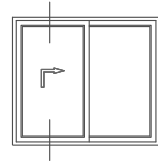


LOGIC
WINDOWS & DOORS

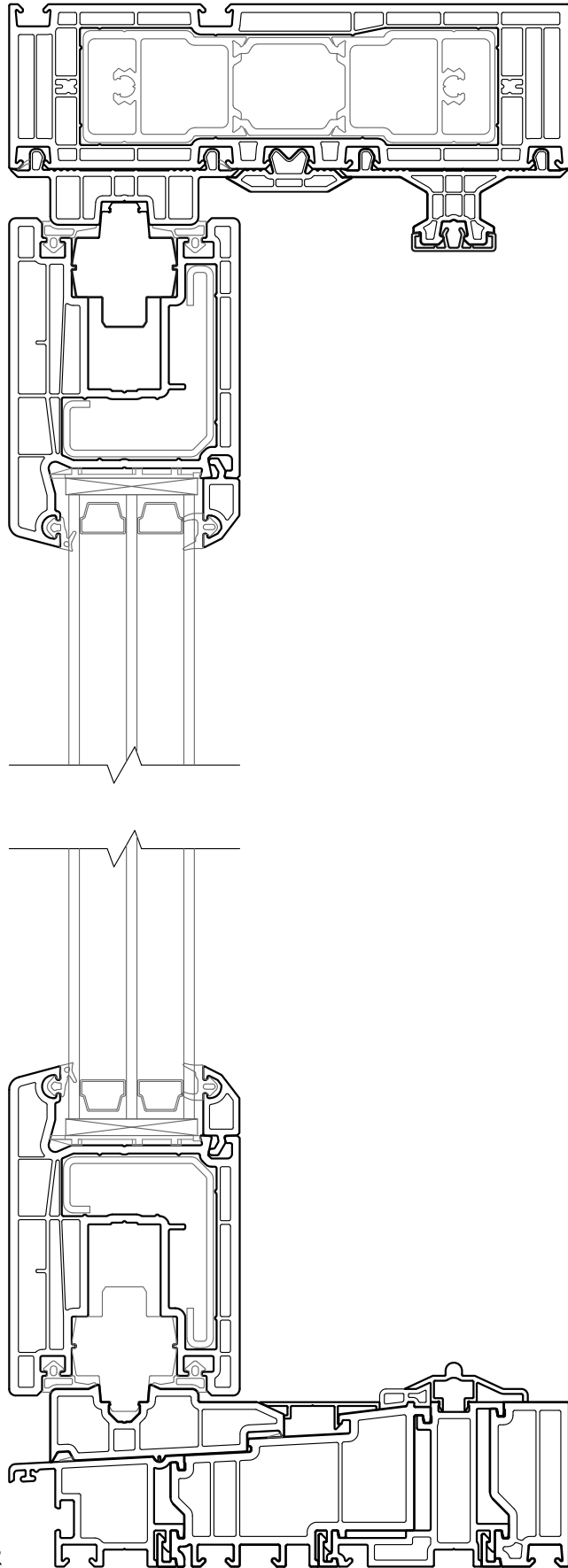
Tel: 207-588-6590
17 Hope Drive, Hallowell, ME 04347

LIFT & SLIDE
2 PANEL

TRIPLE GLAZING



VERTICAL SECTION



EXTERIOR

INTERIOR

LOGIC
WINDOWS & DOORS

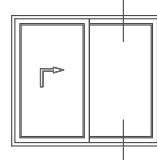
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17 Hope Drive, Hallowell, ME 04347

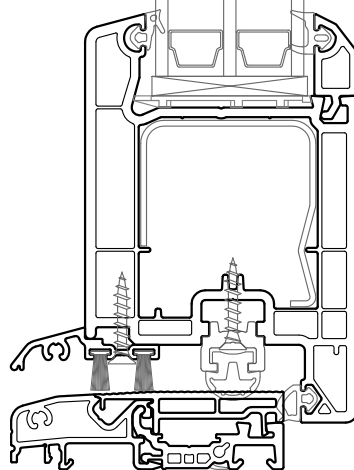
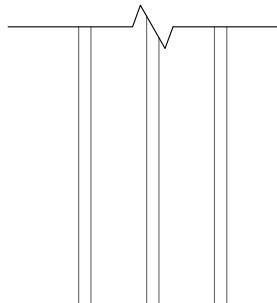
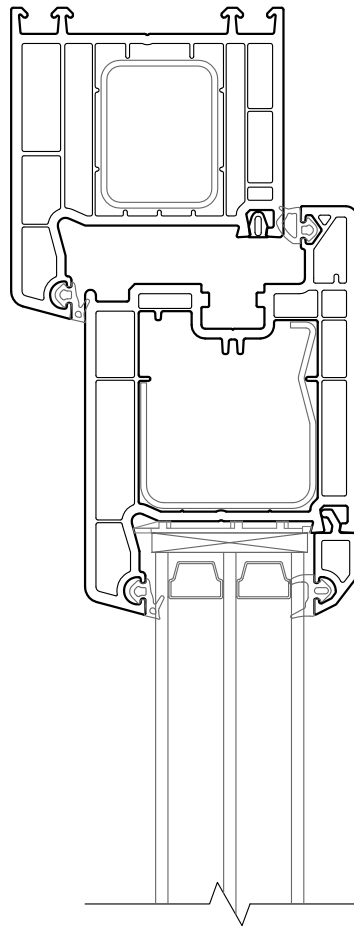
LIFT & SLIDE - 2 PANEL

INACTIVE PANEL

TRIPLE GLAZING



VERTICAL SECTION



EXTERIOR

INTERIOR

LOGIC
WINDOWS & DOORS

Tel: 207-588-6590

17 Hope Drive, Hallowell, ME 04347

INSWING DOOR

TRIPLE GLAZING

Logic Euro Product Specification

Section 08560 PVC Windows & Doors

Note: The following serves as a template to assist in the specification of Steel Reinforced Vinyl Products. The specification covers the broad range of European inspired products, allowing the specifier(Window Manufacturer, Architect, GC, etc.) to incorporate the entire product offering.

Note: In order to identify specific window and door requirements for a project, the specifier will edit the noted/highlighted areas for only those items that are applicable.

Part 1 General

1.1 Section Includes

- A. New Construction or Replacement window and door system application.

Select Only Those Window and Door Types That Apply to Project

- a. Configuration of windows and doors require
 - a.i. Standard Tilt/Turn window or Tilt in Hopper
 - a.ii. Fixed Picture Window
 - a.iii. Standard Single or French Swing Doors
 - a.iii.1. Outswing
 - a.iv. Lift and Slide Doors
 - a.iv.1. 2 Panel, 3 Panel, or 4 Panel
 - a.v. Fixed Architectural Shape
 - a.v.1. Specify Shape

1.2 Related Sections

- A. Rough Opening Requirements
 - a. 06-1000 – Rough Carpentry/Framed Openings
 - b. 03-3000 – Cast in Place Concrete
 - c. 04-8100 – Masonry Assemblies
 - d. 05-4000 – Cold Formed Metal Framing
 - e. ADD OTHERS HERE

B. Additional Related Section Requirements

- a. 07-9200 – Joint Sealants
- b. 08-8000 – Glazing
- c. ADD OTHERS HERE

1.3 References

A. AAMA – American Architectural Manufacturers Association

- a. AAMA/WDMA/CSA 101/I.S.2/A440-08 – Standard/Specification for Windows, Doors and unit Skylights.
- b. AAMA303 – Voluntary Specification for Rigid Poly Vinyl Chloride (PVC) Exterior Profiles.
- c. AAMA502 – Voluntary Specification for Field Testing of Windows and Doors.
- d. AAMA800 – Voluntary Specification and Test Methods for Sealants.
- e. AAMA1504 – Voluntary Standard for Thermal Performance of Windows, Doors and Glazed Wall Sections.

B. ASTM – American Society of Testing Material

- a. ASTM E283 – Standard Test Method for Determining the Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Difference Across the Specimen.
- b. ASTM E547 – Standard Test Method for Water Penetration of Exterior Windows, Skylights, Doors and Curtain Walls by Cyclic Static Air Pressure Difference.
- c. ASTM E1332 – Standard Classification of Determination of Outdoor-Indoor Transmission Class.

C. NFRC - National Fenestration Rating Council

- a. NFRC 100-2010 – Procedure for Determining Fenestration Product U-Factors.
- b. NFRC 200-2010 – Procedure for Determining Fenestration Product Solar Heat Gain Coefficient and Visible Transmittance at Normal Incidence.
- c. NFRC 400-2010 – Procedure for Determining Fenestration Air Infiltration.
- d. NFRC 500-2010 – Procedure for Determining Fenestration Product Condensation Resistance Values.

D. ASCE – American Society of Civil Engineers

- a. ASCE7-05 – Minimum Design Loads for Building and Other Structures.

- E. US Department of Energy
 - a. Energy Star 6.0 Windows Program - 2016

1.4 System Description/Performance Requirements

- A. Conform to Performance Requirements of AAMA/WDMA/CSA 101/I.S.2/A440-05
- B. Comply with Energy Star/NFRC Certification
- C. Comply with published recommendations of glass manufacturers and with GANA's "Glazing Manual" unless more stringent requirements are indicated.
 - a. Glazed Units to have label affixed per requirements
- D. Performance Class and Grade – AAMA/WDMA/CSA 101/I.S.2/A440-08

Select Only Those Window and Door Types That Apply to Project

- a. Tilt Turn Window
 - a.i. CW-PG85 – Test Size:48"x72" – AAMA CW-PG85-DAW
- b. Tilt In Hopper Window
 - b.i. CW-PG90 – Test Size:60"x36" – AAMA CW-PG90-AP
- c. Fixed Window
 - c.i. CW-PG65 – Test Size:99"x63" – AAMA CW-PG65-FW
- d. Single Swing Door – Out Swing Only
 - d.i. LC-PG60 – Test Size:40"x83" – AAMA LC-PG60-SHD
- e. Lift and Slide Doors
 - e.i. LC-PG45 – Test Size:97"x96" – AAMA LC-PG45-SD
- E. Thermal Transmittance (U-Factor) for overall window area shall be less than or equal to: 0.30.
- F. Solar Heat-Gain Coefficient (SHGC) for overall window area shall not exceed: 0.40.
- G. Sound Transmission Class (STC) when tested for Laboratory Sound Transmission loss according to ASTM E90, the rated assembly is not less than: 25 STC.
- H. Limit air leakage through assembly to 0.3 cfm/sf of window/door area, measured at a reference differential pressure across assembly of 1.60 psf (75pa) as tested in accordance with ASTM E283.
- I. Water Resistance (Window): There shall be no leakage when the unit is subjected to a pressure drop of 7.5 psf (431 Pa). Test shall be conducted in accordance with ASTM E547 and E331.

- J. Water Resistance (Door): There shall be no leakage when the unit is subjected to a pressure drop of 7.5 psf (431 Pa). Test shall be conducted in accordance with ASTM E547 and E331.
- K. Uniform Load Deflection = 50 psf (3120 Pa) / Uniform Load Structural = 75 psf (4680 Pa). Test shall be conducted in accordance with ASTM E330.
- L. Hardware to be multi-point and corrosion resistant and fastened using corrosion resistant screws. All locking points and fasteners have been salt spray tested to exceed 1,000 hours.
- M. Forced Entry Resistance shall be Grade 10 or greater on operable units and Grade 40 or greater on fixed units.

1.5 Submittals

- A. General
 - a. Submitted under the provisions of Section 01300
- B. Product Data
 - a. Data sheets on each specified product including
 - a.i. All available test reports
 - a.ii. Standard installation instructions and recommendations per install method
 - a.iii. Storage and handling requirements and recommendations, including hardware maintenance sheet
- C. Shop Drawings
 - a. Standard drawings to provide cross section details of specified product w/ dimensions.
 - b. Installation detail drawings per requested install method with corresponding anchorage systems and or accessory connections.
- D. Samples
 - *Select Only Those Samples that are Required for the Project ***
 - a. Selections Samples
 - a.i. Submit (Lamination) (Painted) color chip sample set representing full range of available lamination colors.
 - b. Verification Samples
 - b.i. For each specified product supply minimum 12" corner sample illustrating quality of construction and interior steel support.

- b.ii. If required, standard 24"x36" operating unit, or similar size, provided for Architects approval.

1.6 Quality Assurance

- A. Manufacturer Qualifications
 - a. Minimum 10 year experience fabricating fully welded vinyl window and door systems.
 - b. Manufacturer must be active AAMA member in good standing.
- B. Installer Qualifications
 - a. An installer approved by Developer, Building Owner, Architect or General Contractor.
- C. Product Approval
 - a. Work will not commence until final sizes, finish, operation and accessories are approved/verified by architect or appropriate person(s).

1.7 Delivery, Storage and Handling

- A. Deliver to site undamaged in Manufacturers product specific packaging. Each shipping unit will include contents checklist.
- B. All shipments will be visually inspected for damages. Manufacturer must be notified immediately of damage in transit.
- C. Units will be marked with project specific coding provided by specifier.
- D. Store units according to manufacturer's requirements, in upright position, off the ground and protected from weather, direct sunlight and construction activities.
- E. Keep on site handling to a minimum. Protect materials and finish during handling and installation to prevent damage.
- F. Larger units will include handles mounted on exterior of frame jambs to assist with handling.

1.8 Project Conditions

- A. Environmental
 - a. Maintain environmental conditions (temperature, humidity and ventilation) within limits recommended for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
 - b. Sealants shall not be applied when conditions are not within limits permitted by sealant manufacturer. This includes applying to wet substrates.
- B. Field Measurements

- a. Verify window and door openings by field measurements before fabrication and indicate measurements on final window/door schedule.
- b. Contractor/Installer will work with manufacturer to verify make size dimensions of all units.

1.9 Warranty

- A. 10 Year Limited Manufacturer's Warranty written against material defects and workmanship. Defects include, but are not limited to, the following:
 - a. Coverage for insulated glass against seal failure
 - b. Hardware failure with the exception of misuse
 - c. Frames of sashes failing during normal use
 - d. Operating failure under normal conditions
 - e. 10 year limited warranty on laminated and Painted finishes per laminate and painted finish warranty
- B. Manufacturer's warranty does not cover any damages or defects caused by faulty installation practices or in the case of misuse and abuse.

Part 2 Products

2.1 Manufacturers

- A. Acceptable Manufacturer:

Logic Windows and Doors as represented by Pinnacle Window Solutions
17 Hope Drive
Hallowell, Maine 04347
Phone: 207-588-6590
www.logicwd.com

2.2 Units

- A. Frames, Sashes and Rails
 - a. Frame depth: **(70mm) (86mm)**
 - b. Min wall thickness .098".

- c. Multi-chambered design with maximum optimal air spaces between exterior and interior surfaces.
- d. Window and door reinforcement – Galvanized steel with .075” minimum thickness installed in frames and sashes as required by window manufacturer.
- e. All frames and sashes are to be made of unplasticized polyvinyl chloride (UPVC).
- f. Window and door finish – PVC finish will not fade, blister, crack or warp under normal atmospheric conditions.

B. Components

- a. Fasteners – Stainless steel
 - a.i. If required for installation, anchors must be approved by responsible engineer/architect for the project.
 - a.ii. Avoid exposed fasteners wherever possible.

***Select Only Those Configurations that are Required for the Project ***

- b. Hardware
 - b.i. Window Hardware - ASTM B117 to exceed 1,000 hours salt spray exposure.
 - b.i.1. Multi-point locking system
 - b.i.2. Lever Handle Style: (Roto) (Ferco) (Hoppe)
 - b.i.2.a. Handle Options: (Standard - Non Keyed) (Optional - Keyed for Custodial Locking (Tilt First Application))
 - b.i.2.b. Handle Finish:
 - b.i.2.b.i.1. Roto Options: (Silver) (Champagne) (Matte Brass) (Bronze) (Medium Bronze) (Titanium Matte) (Grey-Brown) (White)
 - b.i.2.b.i.2. Ferco Options: (White) (Titanium Matte) (Silver)
 - b.i.2.b.i.3. Hoppe Options: (Brass) (Brushed Chrome) (Black) (Oil Rubbed Bronze) (Satin Nickel) (Rustic Umber)
 - b.i.3. Hinges:

b.i.3.a. Style: (Manufacturer's standard butt hinges with covers)
(Optional - Designo Concealed Hinge System) (Optional -
Stainless Friction Hinges for Hoppers/Awnings)

b.i.3.b. Finish: to be selected from standard finish options)

b.ii. Fold & Slide Door Hardware and Swing Door Hardware – ASTM B117 to exceed
1,000 hrs salt spray exposure.

b.ii.1. Multi-Point Locking System

b.ii.2. Handle Set with cylinder and deadbolt

b.ii.2.a. (Full keyed) (half thumb) turn cylinder

b.ii.2.b. Style *Standard*: (Roto) (Rotoline Long)

b.ii.2.c. Style *Upgraded*: (Verona) (New Orleans) (Frankfurt)

b.ii.2.d. Handle Set Finish: (Silver) (Champagne) (Matte Brass)
(Bronze) (Medium Bronze) (Titanium Matte) (Grey-Brown)
(White)

b.ii.3. Hinges:

b.ii.3.a. Style: (Standard - Roto flag style surface mount) (HAPS
barrel style)

b.ii.3.b. Finish: to be selected from standard finish options

b.iii. Lift & Slide Door Hardware – ASTM B117 to exceed 1,000 hrs salt spray
exposure.

b.iii.1. Manufacturer's standard Lift and slide door hardware

b.iii.2. Handle Set

b.iii.2.a. Style: (Rondo) (Dirgent)

b.iii.2.b. Finish: *Rondo* - Stainless Steel

b.iii.2.c. Finish: *Dirgent* - (White) (Silver) (Grey-Brown)

c. Glazing

c.i. Glazing shall be accomplished from the interior by use of applied PVC glazing
stop with Neoprene gaskets.

d. Insect Screens

Select Screen Type Required for the Project. Delete if Not Required

- d.i. Standard for inward operating windows. Fixed (spring/grommet) (flex frame) screens fabricated using aluminum frames. Meshing to be charcoal fiberglass.
- d.ii. Screen frame finishes to match window and door finishes.

e. Glass & Glazing Materials

- e.i. Insulating glass panels shall have an overall nominal thickness of 1 3/8" (triple glaze) or 1" (dual glaze).
- e.ii. Glazing Specification is as follows: (Include Manufacturer, pane thickness, tints, coatings and performance as required).
 - e.ii.1. _____
- e.iii. Grid: 7/8" GBG or SDL (Specify below if grids are required by including size, color, type)
 - e.iii.1. _____
- e.iv. Setting blocks and bridges are to be provided by the manufacturer for any units that are to be glazed on site. Units glazed on site are to follow manufacturer's glazing instructions.

f. Accessory Items

Select Only Those Required for Project

- f.i. Vinyl placement / flashing Fin with anchor brackets
- f.ii. Installation brackets
- f.iii. ADD OTHERS HERE

2.3 Fabrication

A. General Requirements

- a. Fabricate Framing and Sash members with fusion welded corners and joints. Frame, Sash and Mullions to have galvanized steel reinforcement.
- b. Welds to be finished with shadow groove weld cleaning.
- c. Frames, Sashes and Mullions contain weep holes in accordance with Fabrication Guidelines.

- d. Dual seal neoprene gaskets used on operable vents.

B. Finishes

Edit to Specify Finish Required for Project

- a. Laminated Coatings/Foils – Select from Pinnacle Standard Offering
 - a.i. Interior - _____
 - a.ii. Exterior - _____
 - a.iii. Coatings/laminates shall be uniform and free from streaks, blisters and other surface imperfections.
- b. Custom Painting
 - b.i. Paint product to match provided color swatch
 - b.i.1. Interior - _____
 - b.i.2. Exterior - _____
- c. Protection
 - c.i. Protective film to be applied to exposed finished surfaces during shipment, storage and installation whenever possible.

Part 3 Execution

3.1 Examination

- A. Do not begin installation until substrates have been properly prepared.
 - a. If substrate preparation is the responsibility of another installer, notify appropriate person(s) of unsatisfactory preparation before proceeding.
 - b. Verify rough opening dimensions, levelness of sill and operating clearances.
 - c. Examine all wall flashing, vapor barriers and other components to ensure weather tight installation.
 - d. Verify sealant compatibility and adhesion to vinyl with sealant Manufacturer.

3.2 Preparation

- A. Coordinate installation with work of other trades.
- B. Clean surfaces thoroughly prior to installation.

- C. When installing in masonry openings, no parts other than anchor devices shall be put in place until masonry work has been completed and cleaned.

3.3 Installation

- A. Install unit frames, glass and components in accordance with shop drawings and manufacturer's instructions. For installation procedures/requirements not addressed in manufacturer's written instructions, comply with the installation requirements in ASTM E2112.
- B. Align frames plumb and level, free of warp, bowing or twist. Maintain dimensional tolerances and check operation before permanently setting unit.
 - a. Erection tolerances
 - a.i. Variations from plumb $\pm 1/8''$ max in height
 - a.ii. Variations from level $\pm 1/8''$ max in width
- C. Coordinate attachment and seal or air and vapor barrier materials. Shim spaces at perimeter of frame to maintain continuity of thermal barrier and insulate using backer rod and minimal expansion foam around perimeter.

3.4 Quality Control and Adjustments

- A. After installation and curing of any sealant and glazing compounds, testing using AAMA 502 test shall be performed.
- B. The Architect/Owner/Contractor to specify quantity and types of windows and doors to be tested.
- C. Final hardware adjustments shall be made using manufacturer supplied adjustment tools.

3.5 Protection

- A. Clean installed units inside and out promptly after application of trims and sealant. Remove excess glazing and joint sealants, dirt and other substances.
- B. Remove protective film from pre-finished surfaces.
- C. Wash down exposed surfaces using a mild detergent in warm water. Apply with soft, clean cloth.
- D. Special attention to areas in and around installation holes. Steel shards left after installation may cause corrosion/rust stains if left on finished surfaces.



Cylinders are a complete design solution. They are available in various sizes, mounting options, colors and beam angles, and suitable for indoor/outdoor use.

Color: Matte silver

Weight: 2.4 lbs

Project:

Type:

Prepared By:

Date:

Driver Info

Type	Constant Current
120V	0.10A
208V	0.06A
240V	0.05A
277V	0.05A
Input Watts	11.7W

LED Info

Watts	10W
Color Temp	2700K (Residential Warm)
Color Accuracy	92 CRI
R9	57
L70 Lifespan	50,000 Hours
Lumens	699
Efficacy	59.7 lm/W

Technical Specifications

Compliance

UL Listed:

Suitable for wet locations

IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires and LED components have been tested by an independent laboratory in accordance with IESNA LM-79 and LM-80.

Electrical

Driver:

Constant Current, Class 2, 120-277V, 50/60 Hz, 120V: 0.10A, 208V: 0.06A, 240V: 0.05A, 277V: 0.05A

Dimming Driver:

0 - 10V (at 120-277V), TRIAC and ELV (at 120V only)

THD:

10.8% at 120V, 25.9% at 277V

Power Factor:

99.1% at 120V, 88% at 277V

Optical

Optics:

40°

Performance

Lifespan:

50,000-Hour LED lifespan based on IES LM-80 results and TM-21 calculations

LED Characteristics

LEDs:

Long-life, high-efficacy, surface-mount LEDs

Color Stability:

LED color temperature is warrantied to shift no more than 200K in color temperature over a 5-year period

Construction

Cold Weather Starting:

The minimum starting temperature is -20°C (-4°F)

Maximum Ambient Temperature:

Suitable for use in up to 40°C (104°F)

Lens:

TIR-Polycarbonate (Total Internal Reflection)

Reflector:

Vacuum-metalized polycarbonate

Technical Specifications (continued)

Construction

Housing:

Extruded aluminum

Mounting:

Wall direct light only

Gaskets:

High-temperature silicone

Green Technology:

Mercury and UV free. RoHS-compliant components.

Finish:

Formulated for high durability and long-lasting color

Other

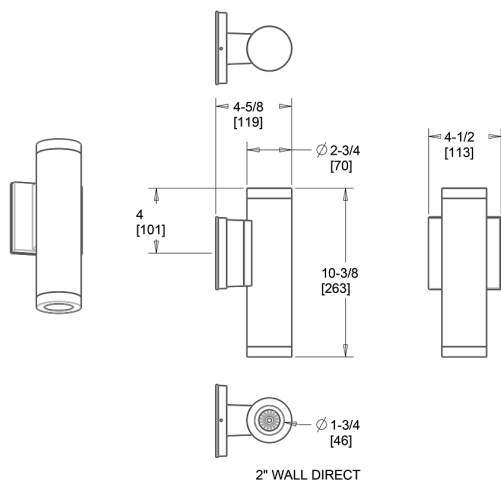
Warranty:

RAB warrants that our LED products will be free from defects in materials and workmanship for a period of five (5) years from the date of delivery to the end user, including coverage of light output, color stability, driver performance and fixture finish. RAB's warranty is subject to all terms and conditions found at rablighting.com/warranty.

Buy American Act Compliance:

RAB values USA manufacturing! Upon request, RAB may be able to manufacture this product to be compliant with the Buy American Act (BAA). Please contact customer service to request a quote for the product to be made BAA compliant.

Dimensions



Features

Sleek, contemporary, architectural-grade design
Universal dimming driver (TRIAC, ELV and 0-10V)
50,000-Hour LED lifespan

Ordering Matrix

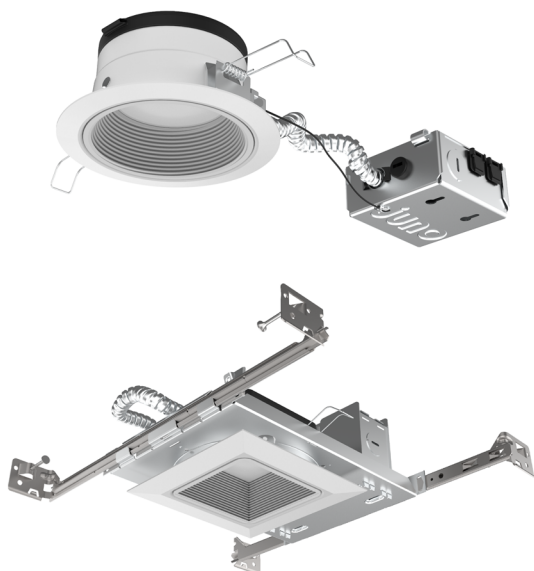
Family	Size	Mounting		Wattage		Optic	CRI/Color Temp		Finish
CDLED	2	WD	-	10W	-	40D	927	-	S
	2 = 2"	WD = Wall Direct (Downlight) Only		10W = 10W		20D = 20°	927 = 90 CRI, 2700K		W = Matte
	4 = 4"	WU = Wall Indirect (Uplight) Only		20W = 20W		30D = 30°	930 = 90 CRI, 3000K		White
	6 = 6"	W = Wall Direct/Indirect (Downlight/Uplight)		26W = 26W		40D = 40°	935 = 90 CRI, 3500K		K = Matte Black
		S = Surface (Ceiling Mount)		40W = 40W		50D = 50°	940 = 90 CRI, 4000K		S = Matte
		PC = Pendant Cord 48" Standard				80D = 80°	950 = 90 CRI, 5000K		Silver
		PS = Pendant Stem				WW = Wall Wash			Z = Bronze

Juno®

Podz™ LED Downlight Series

4" Canless Round and Square LED Downlight
New Construction or Remodel

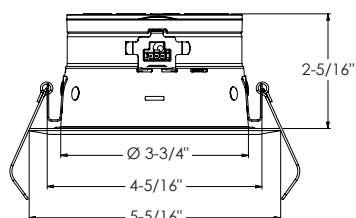
JPDZ4 Series



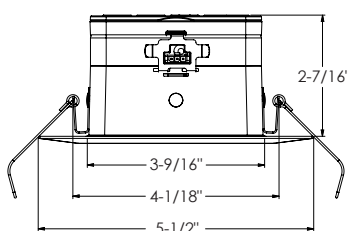
WarmDim®

Dimensions

4" Round



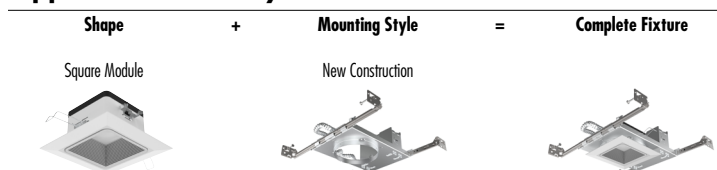
4" Square



Application Flexibility - Remodel



Application Flexibility - New Construction



Project:

Fixture Type:

Location:

Contact/Phone:

Product Features

Canless low profile 4" LED recessed downlight with deeply regressed light source and technology rich features offers performance up to 1200L and installation solutions for both new construction and remodel applications.

Patent pending integral light engine

- Integrated design offers switchable LED color temperature and adjustable lumen output directly on module for easy switching
- Advanced color mixing technology provides consistent color rendering on the black body curve at all LED color temperatures while maintaining a high 90+ CRI
- WarmDim™ setting provides performance similar to incandescent light sources and warms the LED color temperature over the dimming range from 2850K to 1900K

Installation flexibility and ease

- Low profile integrated LED downlight less than 3" in height fits virtually anywhere
- Installs directly into the plenum - eliminates need for typical recessed housing
- Installs into new construction or remodel applications

Applications

- Ideal for a breadth of residential and commercial applications
- Shallow plenum installations
- IC rated - for direct contact with insulation
- Wet location listed - for use in shower applications

Performance

Switchable Delivered Lumens	700L, 1000L, 1200L
Switchable LED Color Temperature	27K, 30K, 35K, 40K, 50K
WarmDim Included as standard	2850K - 1900K over dimming range
CRI	90+
Voltage	Dedicated 120V or MVOLT (120-277V)
Dimming	Forward/Reverse Phase or 0-10V



Podz™ LED Downlight Series

4" Canless Round and Square LED Downlight
New Construction or Remodel

ORDERING INFORMATION For complete fixture, order trim module + mounting option

Podz TRIM MODULE

Example: JPDZ4 DC ALO10 SWW5WD 90CRI JPDZRMJBX 120 FRPC WWH

Series	Trim Type	Lumens	Color Temperature	CRI
JPDZ4 Juno Podz 4" LED Downlights	DB Round Downlight Baffle DC Round Downlight Cone SQDB Square Downlight Baffle SQDC Square Downlight Reflector	ALO10 Adjustable Lumen Output 700L, 1000L, and 1200L	SWW5WD Switchable White 2700K, 3000K, 3500K, 4000K, 5000K, + WarmDim (2850K-1900K)	90CRI 90+CRI

Mounting Options	Voltage/Driver	Finish
REMODEL: JPDZRMJBX 4 Juno Podz universal remodel junction box (for 4", 5", 6")	120 FRPC 120V Forward/Reverse Phase Cut, 5% dim MVOLT ZT10 Multi-Volt (120-277), 0-10V, 10% dim	WWH ¹ White, White Trim Ring BWH ² Black, White Trim Ring CWH ³ Clear, White Trim Ring HZWH ³ Haze, White Trim Ring WHZW ³ Wheat Haze, White Trim Ring
NEW CONSTRUCTION: JPDZ4RDNCMF Juno Podz 4IN Round New Construction Mounting Frame JPDZ4SQNCMF Juno Podz 4IN Square New Construction Mounting Frame		

Square trim options available to order May 2021.

NOTES

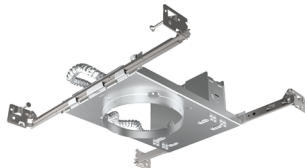
- 1 WWH is only available with DB, SQDB, DC and SQDC.
- 2 BWH only available with DB and SQDB.
- 3 CWH, HZWH and WHZW only available with DC and SQDC.
- 4 Not for use in an existing housing.

Product ships in two parts

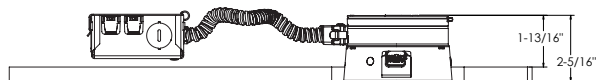
Trim Module



Mounting Option

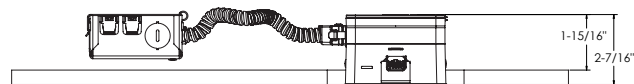


Remodel - Round

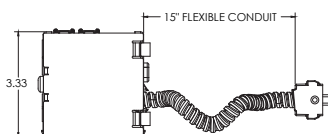


4 1/2" CEILING CUTOUT

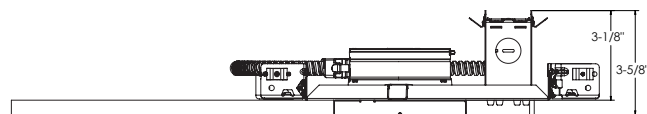
Remodel - Square



4 3/4" CEILING CUTOUT

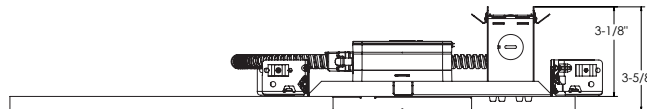


New Construction - Round

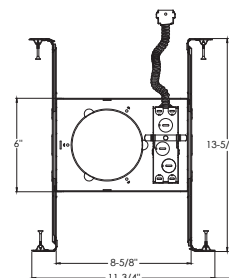


4 1/2" CEILING CUTOUT

New Construction - Square



4 3/4" CEILING CUTOUT





Podz™ LED Downlight Series

4" Canless Round and Square LED Downlight
New Construction or Remodel

Specifications

LED Light Engine

Patent pending integral light engine mounts directly to aluminum housing providing superior heat transfer to ensure long life of the electronics

- Switchable LED color temperature and adjustable lumen output directly on module for easy switching
- Advanced color mixing technology provides consistent color rendering on the black body curve at all LED color temperatures
- LED color temperature settings include 2700K, 3000K, 3500K, 4000K and 5000K; factory set at 3000K
- Three lumen switching options include 700L, 1000L and 1200L; factory set at 1000L
- Dedicated WarmDim setting provides performance similar to incandescent light sources and warms the LED color temperature over the dimming range from 2850K to 1900K
- 90CRI minimum

LED Driver

Choice of dedicated 120 volt (120) driver or universal voltage (MVOLT) drivers that accommodate input voltages from 120-277 volts AC at 50/60Hz

- Power factor > 0.9 at 120V input
- 120 volt only driver is dimmable with the use of most incandescent, magnetic low voltage and electronic low voltage wall box dimmers
- Universal voltage drivers are dimmable with the use of most 0-10V wall box dimmers
- For a list of compatible dimmers, see [JUNOICLED-DIM](#)

Optical System

Computer-optimized reflector design with high reflectance white finish coupled with a high transmission diffusing lens conceals the LEDs and produces uniform aperture luminance

- Deep regression of lens produces a low glare, efficient system typical of a standard 4" downlight medium flood distribution providing even illumination for general downlighting applications.

Certifications

ENERGY STAR® Certified • Can be used to comply with 2019 Title 24, Part 6, JA8 high efficacy LED light source requirements • UL listed for U.S. and Canada through-branch wiring, damp locations and for wet location (indoor covered ceiling) • UL and cUL

Testing All reports are based on published industry procedures; field performance may differ from laboratory performance.

Trim Module Construction

Low profile, < 3" aluminum housing with integral white flange • Designed for installation directly into the plenum in IC (insulated ceiling) or non-IC construction

- Provided with spring clips for ease of installation
- Accommodates up to a 1 1/2" ceiling thickness

Trim Finishes

Choice of baffle or cone trims in a selection of finishes ship installed in trim

Remodel Junction Box Construction

22-gauge die-formed galvanized steel junction box • Conduit cable with quick connect electrical plug pre-wired on junction box and allows for easy electrical connection with the trim module • Junction box provided with (5) 1/2" and (1) 3/4" knockouts, (4) integrated wire traps for 12/2 or 12/3 NM cable UL listed and cUL listed for through-branch wiring, maximum of 4 #12 branch circuit

New Construction Mounting Frame

22-gauge die-formed galvanized steel mounting frame • Rough-in section (junction box, mounting frame and bar hangers) fully assembled for ease of installation • Pre-installed Air-Loc gasket applied to frame • Conduit cable with quick connect electrical plug pre-wired on junction box and allows for easy electrical connection with the trim module • Junction box provided with (5) 1/2" and (1) 3/4" knockouts, (4) knockouts for 12/2 or 12/3 NM cable and ground wire • UL listed and cUL listed for through-branch wiring, maximum of 6 #12 branch circuit conductors • Junction box provided with removable access plates • Knock-outs equipped with pryout slots

Includes Patented (US Patent D552,969) Real Nail® 3 bar hangers: telescoping system permits quick placement of housing any where within 24" O.C. joists or suspended ceilings • Includes removable nail for repositioning of fixture in wood joist construction • Integral T-bar notch and clip for suspended ceilings.

LED housing is designed to provide 50,000 hours of life • 5 year limited warranty on LED components.

Note: Actual performance may differ as a result of end-user environment and application.

All values are design or typical values, measured under laboratory conditions at 25 °C.

Specifications subject to change without notice.

ELECTRICAL DATA

Dedicated 120V Only Driver Option (120 FRPC)

	700L	1000L	1200L
Input Power	8.1W (+/-5%)	13.6W (+/-5%)	15W (+/-5%)
Input Current	0.07A	0.11A	0.13A
Frequency	50/60Hz	50/60Hz	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15, Class B (residential)	FCC Title 47 CFR, Part 15, Class B (residential)	FCC Title 47 CFR, Part 15, Class B (residential)
Minimum starting temp	-20°C	-20°C	-20°C

ELECTRICAL DATA

Universal Voltage

MVOLT ZT10

700L		1000L		1200L	
120V	277V	120V	277V	120V	277V
Input Power	8.1W (+/-5%)	8.1W (+/-5%)	13.6W (+/-5%)	13.6W (+/-5%)	15W (+/-5%)
Input Current	0.07A	0.03A	0.11A	0.05A	0.13A
Frequency	50/60Hz	50/60Hz	50/60Hz	50/60Hz	50/60Hz
EMI/RFI	FCC Title 47 CFR, Part 15, Class B (residential)	FCC Title 47 CFR, Part 15, Class B (residential)	FCC Title 47 CFR, Part 15, Class B (residential)	FCC Title 47 CFR, Part 15, Class B (residential)	FCC Title 47 CFR, Part 15, Class B (residential)
Minimum starting temp	-20°C	-20°C	-20°C	-20°C	-20°C



Podz™ LED Downlight Series

4" Canless Round and Square LED Downlight
New Construction or Remodel

PHOTOMETRICS

Distribution Curve

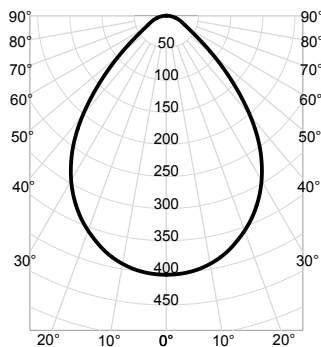
Distribution Data

Output Data

Coefficient of Utilization

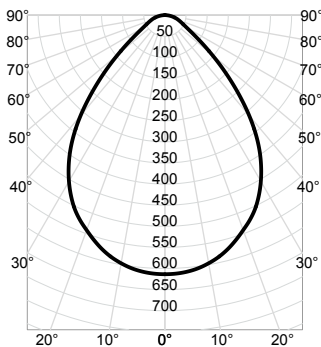
Illuminance Data at 30" Above Floor for a Single Luminaire

JPDZ4 DB 07LM 30K 90CRI WWH, Input Watts: 8.1, Delivered Lumens: 672, LPW: 83.0, S/MH: 1.11, Test No: 20-973-1



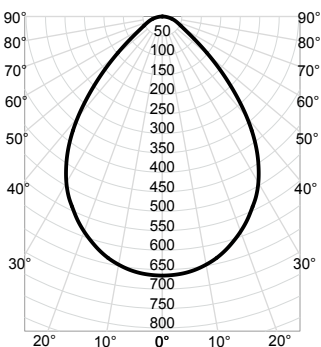
CP Summary	Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
	0°	Zone	Lumens	% Fixture	pf	80%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance				
					pc	50%	30%	10%	50%	30%	10%								
					0°	50%	30%	10%	50%	30%	10%								
0°	403	0° - 30°	295	44%	0	119	119	119	116	116	111	111	111	6.0	11.2	10.1	0°	65,673	
5°	400	0° - 40°	452	67%	1	108	104	101	105	102	100	101	99	97	8.0	6.3	13.5	45°	33,417
15°	377	0° - 60°	619	92%	2	97	92	87	95	90	86	92	88	84	10.0	4.0	16.8	55°	16,678
25°	330	0° - 90°	672	100%	3	88	81	76	86	80	75	84	78	74	12.0	2.8	20.2	65°	11,259
35°	254	90° - 180°	0	0%	4	80	73	67	79	72	67	76	71	66	14.0	2.1	23.6	75°	10,515
45°	145	0° - 180°	672	100%	5	73	65	60	72	65	60	70	64	59	Beam Angle: 80.2° Field Angle: 119.3°			85°	8,975
55°	59																		
65°	29																		
75°	17																		
85°	5																		
90°	0																		

JPDZ4 DB 10LM 30K 90CRI WWH, Input Watts: 13.6, Delivered Lumens: 1028, LPW: 75.6, S/MH: 1.12, Test No: 20-973-2



CP Summary	Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
	0°	Zone	Lumens	% Fixture	pf	80%		70%		50%		Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance				
					pc	50%	30%	10%	50%	30%	10%								
					pw	50%	30%	10%	50%	30%	10%								
0°	614	0° - 30°	451	44%	0	119	119	119	116	116	111	111	111	6.0	17.0	10.1	0°	99,993	
5°	610	0° - 40°	692	67%	1	108	104	101	105	102	100	101	99	97	8.0	9.6	13.5	45°	51,301
15°	574	0° - 60°	948	92%	2	97	92	87	95	90	86	92	88	84	10.0	6.1	16.9	55°	25,656
25°	506	0° - 90°	1,028	100%	3	88	81	76	86	80	75	84	78	74	12.0	4.3	20.3	65°	17,198
35°	390	90° - 180°	0	0%	4	80	73	67	79	72	67	76	71	66	14.0	3.1	23.7	75°	16,056
45°	223	0° - 180°	1,028	100%	5	73	65	60	72	65	60	70	64	59	Beam Angle: 80.4° Field Angle: 119.4°			85°	13,649
55°	90																		
65°	45																		
75°	26																		
85°	7																		
90°	0																		

JPDZ4 DB 12LM 30K 90CRI WWH, Input Watts: 15.0, Delivered Lumens: 1116, LPW: 74.4, S/MH: 1.12, Test No: 20-973-3



CP Summary	Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
	0°	Zone	Lumens	% Fixture	pf	80%					20%					Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance
					pc	50%	30%	10%	50%	30%	10%	50%	30%	10%					
					pw	50%	30%	10%	50%	30%	10%	50%	30%	10%					
0°	665	0° - 30°	488	44%	0	119	119	119	116	116	116	111	111	111	6.0	18.5	10.2	0°	108,434
5°	661	0° - 40°	750	67%	1	108	104	101	105	102	100	101	99	97	8.0	10.4	13.5	45°	55,818
15°	622	0° - 60°	1,029	92%	2	97	92	87	95	90	86	92	88	84	10.0	6.7	16.9	55°	27,928
25°	544	0° - 90°	1,116	100%	3	88	81	76	86	80	75	84	78	74	12.0	4.6	20.3	65°	18,702
35°	424	90° - 180°	0	0%	4	80	73	67	79	72	67	76	70	66	14.0	3.4	23.7	75°	17,441
45°	242	0° - 180°	1,116	100%	5	73	65	60	72	65	60	70	64	59	Beam Angle: 80.5° Field Angle: 119.5°			85°	14,771
55°	98				6	67	59	54	66	59	54	64	58	53					
65°	49				7	62	54	49	61	54	49	59	53	48					
75°	28				8	57	50	44	56	49	44	55	49	44					
85°	8				9	53	46	41	52	45	41	51	45	40					
90°	0				10	49	42	37	49	42	37	48	42	37					



Podz™ LED Downlight Series

4" Canless Round and Square LED Downlight
New Construction or Remodel

PHOTOMETRICS

Distribution Curve

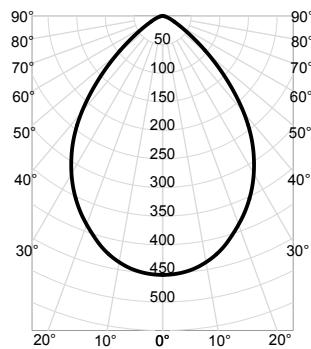
Distribution Data

Output Data

Coefficient of Utilization

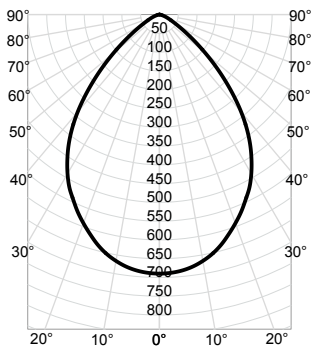
Illuminance Data at 30" Above Floor for a Single Luminaire

JPDZ4 DC 07LM 30K 90CRI HZWH, Input Watts: 8.1, Delivered Lumens: 699, LPW: 86.3, S/MH: 1.07, Test No: 20-973-4



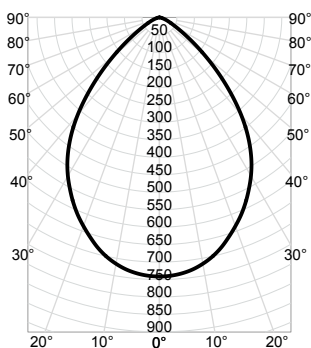
CP Summary		Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
						pf					20%						Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance
0°		Zone	Lumens	% Fixture	pc	50%	80%	30%	10%	50%	30%	10%	50%	30%	10%					
0°	453	0° - 30°	323	46%	0	119	119	119	116	116	116	111	111	111	6.0	12.6	9.9	0°	73,789	
5°	449	0° - 40°	493	70%	1	109	106	103	106	104	101	102	100	98	8.0	7.1	13.2	45°	36,874	
15°	417	0° - 60°	672	96%	2	99	94	89	97	92	88	94	90	86	10.0	4.5	16.5	55°	17,047	
25°	357	0° - 90°	699	100%	3	90	84	79	88	83	78	86	81	77	12.0	3.1	19.8	65°	7,404	
35°	274	90° - 180°	0	0%	4	82	75	70	81	74	69	78	73	68	14.0	2.3	23.1	75°	3,463	
45°	160	0° - 180°	699	100%	5	75	68	62	74	67	62	72	66	62	Beam Angle: 78.9° Field Angle: 114.9°			85°	1,309	
55°	60					6	69	62	56	68	61	56	66	60				56		
65°	19					7	63	56	51	63	56	51	61	55	51					
75°	6					8	59	52	47	58	51	46	57	51	46					
85°	1					9	55	47	43	54	47	43	53	47	42					
90°	0					10	51	44	39	50	44	39	49	43	39					

JPDZ4 DC 10LM 30K 90CRI HZWH, Input Watts: 13.6, Delivered Lumens: 1070, LPW: 78.7, S/MH: 1.07, Test No: 20-973-5



CP Summary		Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
						pf	80%			20%			50%				Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance
0°		Zone	Lumens	% Fixture	pc	50%	30%	10%	50%	30%	10%	50%	30%	10%						
0°	690	0° - 30°	493	46%	0	119	119	119	116	116	116	111	111	111	6.0	19.2	9.9	0°	112,427	
5°	684	0° - 40°	754	70%	1	109	106	103	106	104	101	102	100	98	8.0	10.8	13.2	45°	56,624	
15°	635	0° - 60°	1,029	96%	2	99	94	89	97	92	88	94	90	86	10.0	6.9	16.6	55°	26,224	
25°	543	0° - 90°	1,070	100%	3	90	84	79	88	83	78	85	81	77	12.0	4.8	19.9	65°	11,298	
35°	421	90° - 180°	0	0%	4	82	75	70	81	74	69	78	73	68	14.0	3.5	23.2	75°	5,289	
45°	246	0° - 180°	1,070	100%	5	75	68	62	74	67	62	72	66	61	Beam Angle: 79.3° Field Angle: 114.9°			85°	2,057	
55°	92					6	69	61	56	68	61	56	66	60				56		
65°	29					7	63	56	51	63	56	51	61	55				50		
75°	8					8	59	51	46	58	51	46	57	51				46		
85°	1					9	54	47	43	54	47	43	53	47				42		
90°	0					10	51	44	39	50	44	39	49	43	39					

JPDZ4 DC 12LM 30K 90CRI HZWH, Input Watts: 15.0, Delivered Lumens: 1149, LPW: 76.6, S/MH: 1.07, Test No: 20-973-6



CP Summary		Zonal Lumen Summary				Coefficients of Utilization										Cone of Light			Luminance (cd/sq.m)	
						pf	80%		20%		50%				Mounting Height	Initial FC Center Beam	Beam Diameter	Average Luminance		
0°		Zone	Lumens	% Fixture	pc	50%	30%	10%	50%	30%	10%	50%	30%	10%						
0°	741	0° - 30°	529	46%	0	119	119	119	116	116	116	111	111	111	6.0	20.6	9.9	0°	120,819	
5°	735	0° - 40°	809	70%	1	109	106	103	106	104	101	102	100	98	8.0	11.6	13.2	45°	60,796	
15°	682	0° - 60°	1,104	96%	2	99	94	89	97	92	88	94	90	86	10.0	7.4	16.6	55°	28,127	
25°	584	0° - 90°	1,149	100%	3	90	84	79	88	83	78	86	81	77	12.0	5.1	19.9	65°	12,146	
35°	452	90° - 180°	0	0%	4	82	75	70	81	74	69	78	73	68	14.0	3.8	23.2	75°	5,667	
45°	264	0° - 180°	1,149	100%	5	75	68	62	74	67	62	72	66	61	Beam Angle: 79.2° Field Angle: 114.9°			85°	2,244	
55°	99					6	69	61	56	68	61	56	66	60				56		
65°	32					7	63	56	51	63	56	51	61	55				50		
75°	9					8	59	51	46	58	51	46	57	51				46		
85°	1					9	54	47	43	54	47	43	53	47				42		
90°	0					10	51	44	39	50	44	39	49	43	39					

4" LUMEN OUTPUT MULTIPLIERS

CCT	DB WWH	DB BWH	DC WWH	DC CWH	DC WHZWH	DC HZWH
2700K	1.01	0.78	1.07	1.11	1.03	1.01
3000K	1.00	0.77	1.06	1.09	1.01	1.00
3500K	1.00	0.77	1.07	1.10	1.02	1.00
4000K	1.01	0.78	1.07	1.11	1.02	1.01
5000K	1.00	0.77	1.06	1.09	1.01	1.00
Warm Dim	0.92	0.71	0.98	1.01	0.93	0.92



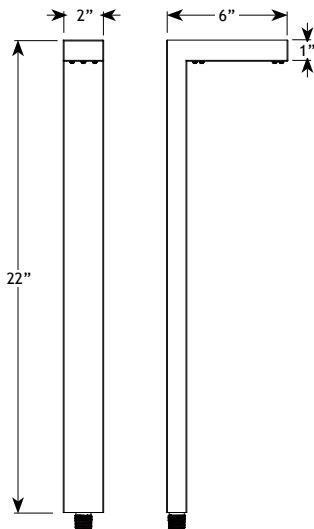
VOLT® Low Voltage Landscape Lighting

Wider Modernelle- VPL-1043-4-BBZ

Product Description

The VOLT® Wider Modernelle Brass Path & Area Light is a robust modern fixture with a low profile and clean lines. Use this ultra-modern fixture to complement your modern architecture and décor. It provides a moderate-sized region of illumination to create a pool of soft-edged evenly dispersed light. The Wider Modernelle comes with a lifetime warranty to ensure optimal performance for the life of your landscape.

Product Dimensions



Specifications

- **Construction:** Solid Brass
- **Finish:** Bronze
- **Lead Wire:** 18AWG
- **Mounting:** 10" Hammer Stake with cutout for wire exit
- **Light Source:** LED Bi-Pin
- **Operating Voltage:** 12VAC-15VAC
- **Powered by:** VOLT's Low Voltage Transformer

Warranty

Lifetime Warranty

Features & Benefits

- Solid Brass Construction.
- Pre-aged finish- natural patina that does not corrode.
- Silicone plug at lead wire exit prevents ground moisture and insects from entering luminaire through the stem.
- Polycarbonate shatter-resistant lens

Certifications





VOLT® Low Voltage Landscape Lighting

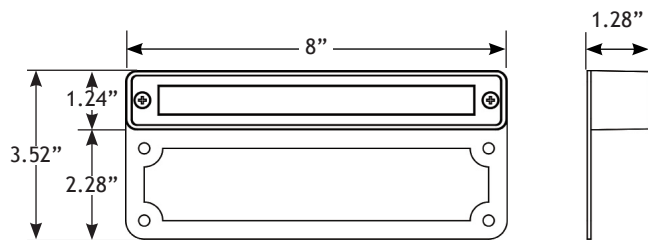
6" Undercover Hardscape Light - VHS-668-4-BBZ

Product Description

VOLT's Undercover Hardscape light is truly a one-of-a-kind pro-grade, quality landscape lighting fixture. This low voltage light is best used in areas that require a low profile light fixture that illuminates downward. Example applications include railings, retaining walls, counter tops (for outdoor kitchens) and even property walls/fences. These luminaires are constructed of high quality solid cast brass, with premium internal components as well. This fixture is completely sealed to protect from moisture and the environment. The frosted lens provides for a beautifully even soft light that compliments any application.



Product Dimensions



Features & Benefits

- ▶ Solid Brass Construction
- ▶ Pre-aged finish; a natural patina that does not corrode
- ▶ Beryllium copper socket - more corrosion resistant than copper
- ▶ Protective brass tube to protect lead wire from crushing when installed in stone, concrete or masonry
- ▶ Frosted lens for smooth photometric results

Specifications

- ▶ **Construction:** Brass
- ▶ **Finish:** Bronze
- ▶ **Lead Wire:** 4' (standard) or 25' (optional) 16AWG
- ▶ **Mounting (included):** mounting plate with 4 screw holes
- ▶ **Lens:** Frosted lens
- ▶ **Light Source (sold separately):** Bi-pin (LED or Halogen)
- ▶ **Operating Voltage:** 12VAC
- ▶ **Powered by:** VOLT's Low Voltage Transformer

Warranty

Lifetime Warranty

Certifications



Max 20 Watts
File #E466348



Max 20 Watts
File #E466348



VOLT® Low Voltage Landscape Lighting

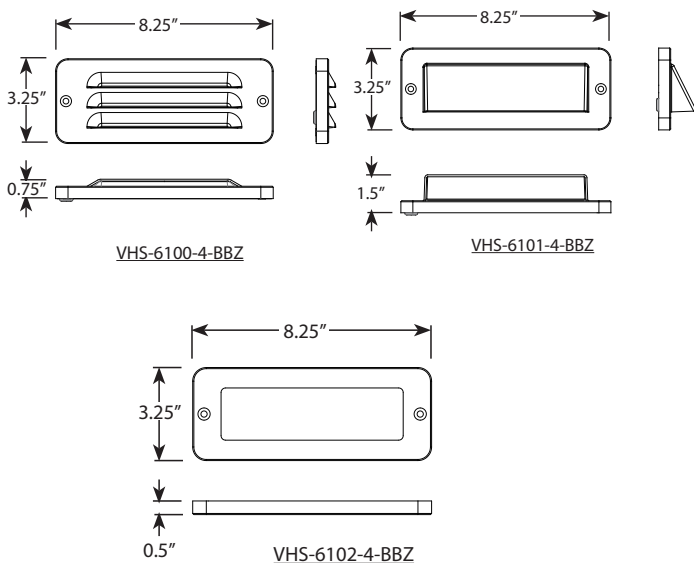
Brass Bunker Thin Integrated Step Light- VHS-610X-4-BBZ

Product Description

The Brass Bunker Thin Integrated Step Lights are designed for quick and easy installation for step-lighting projects. Traditional step lights must be recessed into a step or a wall, whereas these thin, integrated step lights allow for simple surface mounting thanks to pre-drilled screw slots on the faceplates. All of the necessary mounting hardware is included. The solid brass housings are constructed for a lifetime of durability and are completely sealed for water protection. Offset screws sticking out of the backsides of the step lights allow for a minimal gap for the lead wire to easily exit as needed between the fixture and the object it is being mounted to. Ideal applications include: illuminating walkways next to stone walls, retaining walls and nooks around outdoor kitchens.



Product Dimensions



Specifications

- **Construction:** Brass
- **Finish:** Bronze
- **Lead Wire:** 18AWG
- **Glass or Lens Type:** Frosted Lens
- **Light Source:** Integrated
- **Operating Voltage:** 12VAC
- **Powered by:** VOLT's Low Voltage Transformer

Warranty

Lifetime Warranty

Certifications



File #E466348



File #E466348

Features & Benefits

- Easy installation, this fixture does not need to be recessed into a surface.
- Pre-aged finish- a natural patina that does not corrode
- Silicone plug at lead wire exit prevents moisture and insects from entering luminaire
- Completely water tight; pressure fit rubber gasket and rubber seal around wire exit. This fixture is IP65 rated.
- Ideal lumen count creates a soft light to illuminate an area without being overly bright.

Date:

For: ☐ File ☐ Resubmit

PO No.:

☐ Approval ☐ Other

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

LMU180HHV

Multi F with LGRED° Heat Pump Outdoor Unit

Performance:

Cooling (Min-Rated-Max, Btu/h)	8,400 ~ 18,000 ~ 19,980
Heating (Min-Rated-Max, Btu/h)	10,248 ~ 22,000 ~ 24,000
Max Heating at 5°F (Btu/h)	22,000
Cooling Power Input (Min-Rated-Max, kW)	0.88 ~ 1.33 ~ 1.87
Heating Power Input (Min-Rated-Max, kW)	1.25 ~ 2.22 ~ 3.11

Cooling Nominal Test Conditions:

Indoor: 80°F DB/67°F WB
 Outdoor: 95°F DB/75°F WB

Heating Nominal Test Conditions:

Indoor: 70°F DB/60°F WB
 Outdoor: 47°F DB/43°F WB

Electrical:

Power Supply (V/Hz/Ø)	208-230/60/1
MOP (A)	30
MCA (A)	18.6
Recommended Fuse Size (A)	25
Cooling Rated Amps (A)	15.33
Heating Rated Amps (A)	15.33
Compressor (A)	13
Fan Motor (A)	0.73

MOP - Maximum Overcurrent Protection MCA - Minimum Circuit Ampacity

Piping:

Refrigerant Charge (lbs.)	6.18
Liquid Line (in, OD)	Ø1/4 x 2
Vapor Line (in, OD)	Ø3/8 x 2
Max Total Piping ² (ft)	164
Max ODU to IDU Piping (ft)	82
Piping Length (no add'l refrigerant, ft)	49.2
Max Elevation between ODU and IDU (ft)	49.2
Max Elevation between IDU and IDU (ft)	24.6

ODU - Outdoor Unit IDU - Indoor Unit

Controls Features:

- Auto operation
- Auto restart
- Defrost/Deicing
- Inverter (variable speed compressor)
- Low ambient operation to 14F (cooling mode)
- Restart delay (3-minutes)
- Self diagnosis
- Soft start
- Factory installed Drain Pan Heater

Optional Accessories:

- ☐ PI-485 Integration Board - PMNFP14A1
- ☐ AC Smart IV - PACS4B000
- ☐ ACP IV - PACP4B000
- ☐ Power Distribution Indicator - PQNPD1S41
- ☐ MultiSITE™ CM - PBACNBTR0A
- ☐ LonWorks® Gateway - PLNWKB100
- ☐ AC Smart IV BACnet® Gateway - PBACNA000
- ☐ ACP IV BACnet Gateway - PQNFB17C2
- ☐ Low Ambient Wind Baffle (Cooling operation to -4°F) - ZLABGP04A

For a complete list of available accessories, contact your LG representative.

For continual product development, LG reserves the right to change specifications without notice.

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Operating Range:

Cooling (°F DB)	14 to 118
Heating (°F WB)	-13 to +75

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Sound Pressure ³ (Cool/Heat) ±3 dB(A)	50 / 54
Net/Shipping Weight (lbs)	147.7 / 163.1
Heat Exchanger Coating	GoldFin™
Min Number of Indoor Units	2
Max Number of Indoor Units	2

Compressor:

Quantity	1
Type	Twin Rotary
Oil/Type	FVC68D

Fan:

Type	Propeller
Quantity	1
Fan Motor/Drive	Brushless Digitally Controlled/Direct
Airflow Rate (CFM)	2,295

Notes:

- Acceptable operating voltage: 187V - 253V.
- Piping lengths are equivalent.
- Sound Pressure levels are tested in an anechoic chamber under ISO Standard 3745.
- All power/communication cable to be minimum 18 American wire gage (AWG), 4-conductor, stranded, shielded or unshielded wire and must comply with applicable local and national code. If shielded, the wire must be grounded to the chassis at the outdoor unit only.
- Power wiring cable size must comply with the applicable local and national code.
- This data is rated 0 ft above sea level, with 25 ft of refrigerant line and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95 - 105%.
- Must follow installation instructions in the applicable LG installation manual.
- Refer to the Combination Data Manual for combination capacity tables.
- See Performance Data Manual for sensible and latent capacities.



BACnet® is a registered trademark of ASHRAE. LonWorks is a trademark of Echelon Corporation. Energy Star rating at least for Non-Ducted combinations; refer to AHRI directory for complete list.

Job Name/Location:

LMU180HHV

Multi F with LGRED° Heat Pump Outdoor Unit



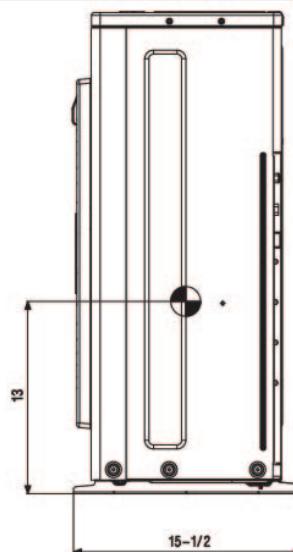
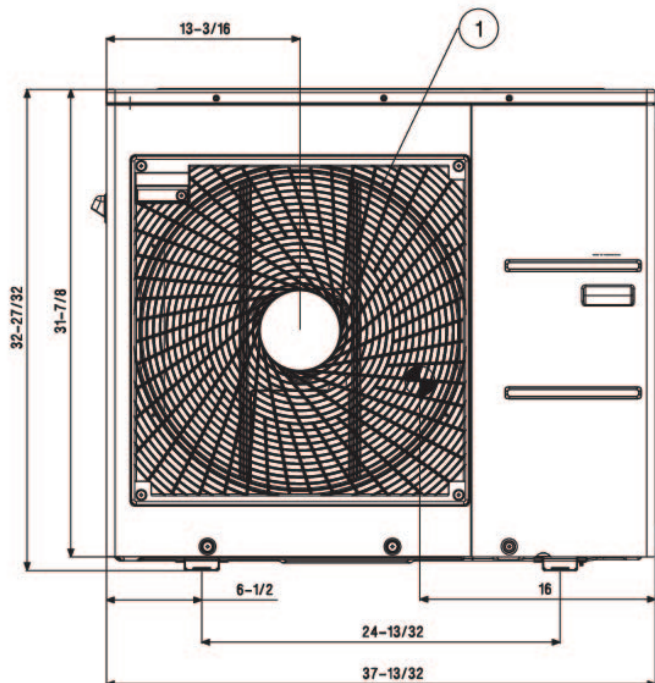
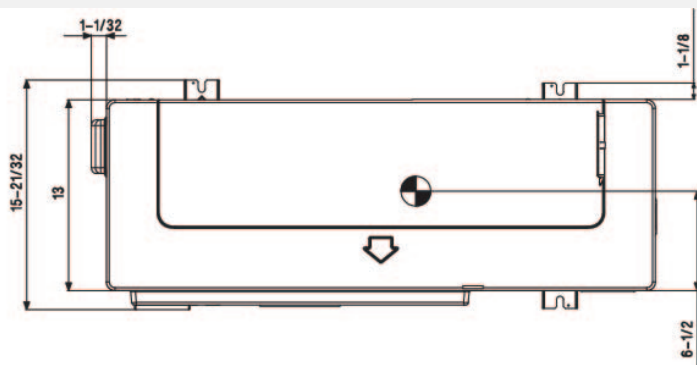
LG

Life's Good

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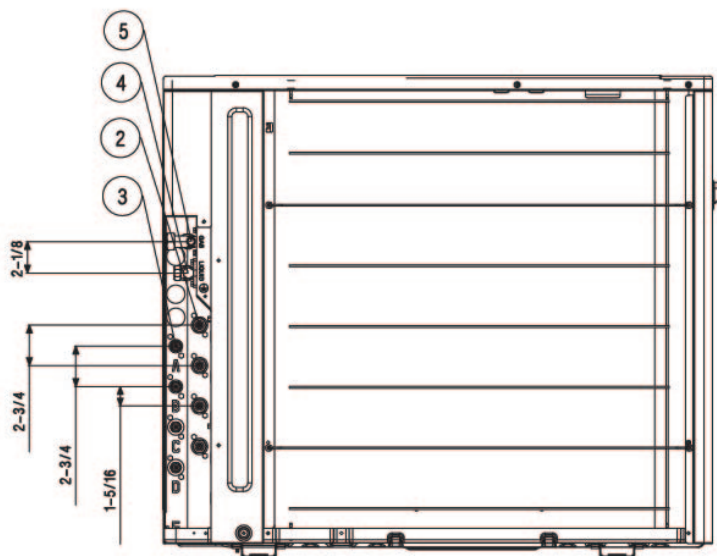
Date:

PO No.:



Unit: Inch

● Gravity point



No.	Part Name
1	Air discharge grille
2	Gas pipe connection
3	Liquid pipe connection
4	Main service valve (Liquid)
5	Main service valve (Gas)

Job Name/Location:

Tag No:

Date:

For:	File	Resubmit
	Approval	Other

PO No.:

Architect:

GC:

Engr:

Mech:

Rep:

(Company)

(Project Manager)

ARUM036GSS5

Multi V™ S with LGRED° Outdoor Unit
3.0 Ton Heat Pump and Heat Recovery

**Performance:**

Cooling Mode:

Rated Capacity (Btu/h)	36,000
Power Input (kW)	2.32

Heating Mode:

Rated Capacity (Btu/h)	42,000
Power Input (kW)	2.92

Rated Capacity is based on the following conditions:

Cooling	Heating:
Indoor: 80°F DB / 67°F WB	Indoor: 70°F DB
Outdoor: 95°F DB	Outdoor: 47°F DB / 43°F WB

Electrical:

Power Supply (V/Hz/Ø) ¹	208-230V, 60, 1
MOP (A)	40.0
MCA (A)	23.5
Rated Amps (A)	
Compressor Amps (A)	18.0
Fan (A) x Qty.	0.5 x 2

Piping / Connections:²

Refrigerant Charge (lbs.)	7.7
Piping / Connections for Heat Recovery Operation	
Liquid Line (in., O.D.)	3/8 Braze
Low Pressure Vapor Line (in., O.D.)	3/4 Braze
High Pressure Vapor Line (in., O.D.)	5/8 Braze
Piping / Connections for Heat Pump Operation	
Liquid Line (in., O.D.)	3/8 Braze
Vapor Line (in., O.D.)	5/8 Braze

Compressor:

Type	Hermetically Sealed Scroll
Quantity	1
Oil / Type	PVE / FVC68D

Standard Features:

- Night Quiet Operation
- Fault Detection and Diagnosis
- Smart Load Control
- Smart Oil Management
- Drain Pan Heater Built In

Optional Accessories:

- ☐ Low Ambient Baffle Kit - ZLABGP04A (2 required)³

Operating Range:

Cooling (°F DB) ³	23 to 122
Heating (°F WB)	-13 to +61
Synchronous	
Cooling Based (°F DB)	14 to 81
Heating Based (°F WB)	14 to 61

Unit Data:

Refrigerant Type	R410A
Refrigerant Control	EEV
Max. Number of Indoor Units ⁴	6
Sound Pressure dB(A) ⁵	
Cooling Mode	50
Heating Mode	53
Weight	
Net (lbs.)	263
Shipping (lbs.)	294
Communication Cable (No x AWG) ⁶	2 x 18
Heat Exchanger Coating	Black Fin™

Fan:

Type	Axial Flow
Quantity	2
Motor / Drive	Brushless Digitally Controlled/Direct
Air Flow Rate (CFM)	4,238

Notes:

1. Power wiring size must comply with the applicable local and national codes.
2. For main pipe segment size, refer to the LATS Multi V tree diagram.
3. Installation of an optional Low Ambient Wind Baffle Kit will allow operation down to -9.9°F in cooling mode.
4. The combination ratio must be between 50 - 130%.
5. Sound pressure levels are tested in an anechoic chamber under ISO Standard 3745.
6. Communication cable between ODU, IDU(s) / HRU(s) must be a minimum of 2-conductor, 18 AWG, twisted, stranded, and shielded. Ensure the communication cable shield is properly grounded to the ODU chassis only. ⚡ **DO NOT** ground the communication cable at any other point. Wiring must comply with all applicable local and national codes.
7. Nominal data is rated 0 ft above sea level, with 25 ft of refrigerant line per indoor unit and a 0 ft level difference between outdoor and indoor units. All capacities are net with a combination ratio between 95-105%.
8. Power wiring cable size must comply with the applicable local and national codes.
9. The voltage tolerance is ± 10%.

LGRED°*Inverter*

Job Name/Location: _____

ARUM036GSS5

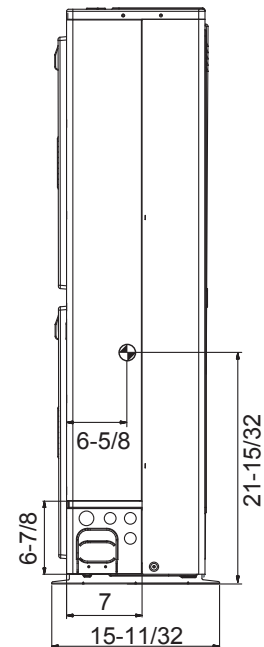
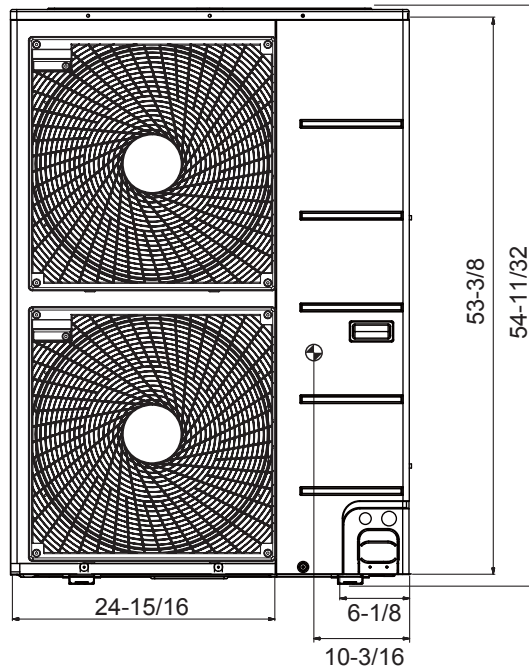
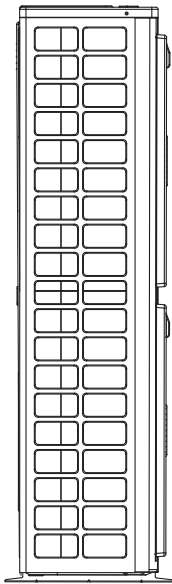
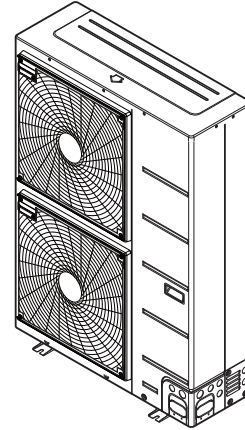
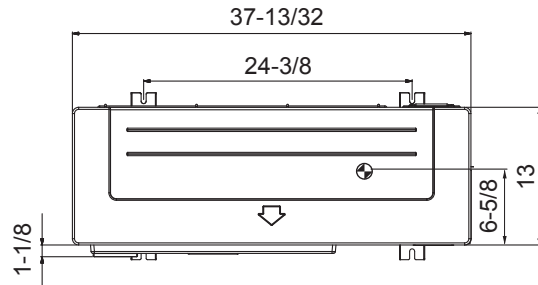
Multi V™ S with LGRED® Outdoor Unit
3.0 Ton Heat Pump and Heat Recovery



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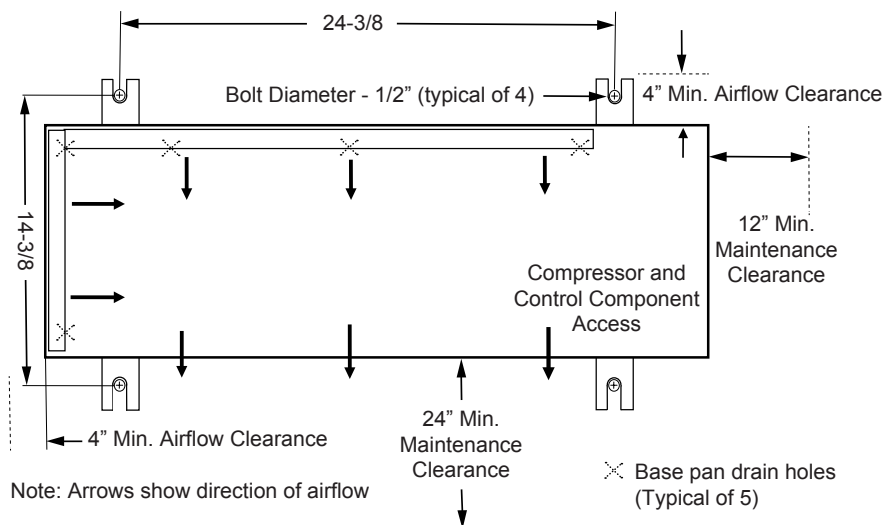
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Unit: inch

⊕ Center of Gravity



Job Name/Location: _____

ARUM036GSS5

Multi V™ S with LGRED° Outdoor Unit

3.0 Ton Heat Pump and Heat Recovery



Tag No.: _____

Date: _____

PO No.: _____

AHRI Data:

Reference Number	Indoor Unit Type	Cooling Capacity (95°F)	EER (95°F)	SEER	High Heating Capacity (47°F)	Low Heating Capacity (17°F)	HSPF
205967237	Non-Ducted Indoor Units	36,000	15.50	23.00	42,000	26,000	12.00
205967238	Ducted Indoor Units	36,000	13.00	18.30	42,000	28,000	11.40
205967240	Mixed Ducted and Non-Ducted Indoor Units	36,000	14.25	20.65	42,000	27,000	11.70